

Defining Food Equity

INTRODUCTION

In 2010, Partnership for a Healthier America (PHA) was born out of a desire to make healthy eating and active living the new status quo for children and adults across the country. Over time the organization focused on pursuing “health equity” as it became clearer that lack of access to good food was predisposing people to obesity, diabetes and heart disease. The global pandemic made the cost of these inequities even clearer as the disease burden fell disproportionately on Black, Hispanic and Indigenous Americans and individuals with underlying conditions like obesity and diabetes.^{1,2} Many inequities contribute to health disparities. One of the inequities is the lack of access to vegetables, beans, fruits and other nutritious food, or “food equity.” The goal of this paper is to establish and illuminate a definition of food equity so that we can drive clear and measurable results with our own work as we help guide discussion about food systems change. There is no true equity in society without health equity; there is no health equity without food equity.

¹ Tai, D., Shah, A., Doubeni, C. A., Sia, I. G., & Wieland, M. L. (2021). The Disproportionate Impact of COVID-19 on Racial and Ethnic Minorities in the United States. *Clinical infectious diseases : an official publication of the Infectious Diseases Society of America*, 72(4), 703–706. <https://doi.org/10.1093/cid/ciaa815>

² Zhou, Y., Chi, J., Lv, W., & Wang, Y. (2021). Obesity and diabetes as high-risk factors for severe coronavirus disease 2019 (Covid-19). *Diabetes/metabolism research and reviews*, 37(2), e3377. <https://doi.org/10.1002/dmrr.3377>



WHY FOOD EQUITY

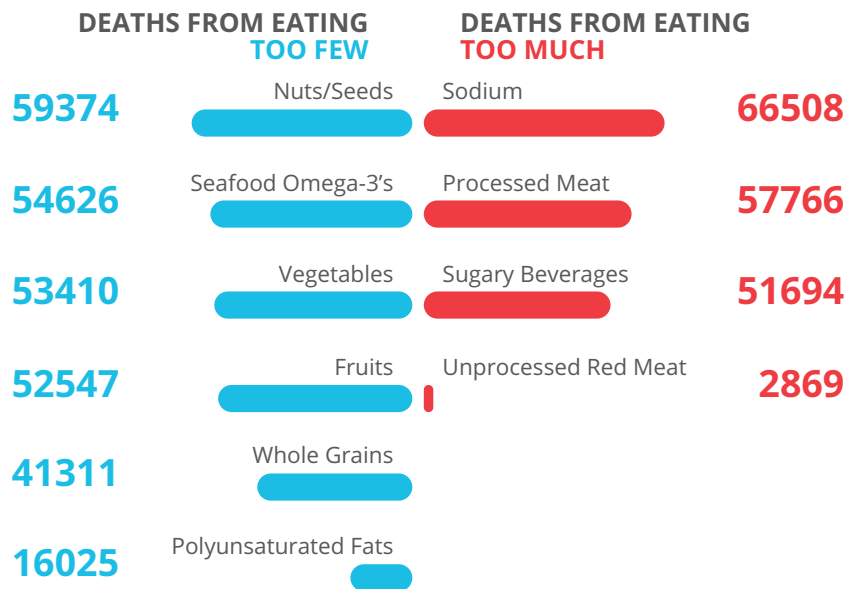
In 2020, the murder of George Floyd and the COVID-19 pandemic heightened much-needed awareness of racial and other forms of inequity within the United States and brought them to the forefront of public discourse. These inequities include wide disparities in health – differences in rates and burdens of diseases and other adverse health conditions among specific population groups. Reducing or eliminating these disparities will require action across many sectors including health care, housing, education, transportation, criminal justice, finance, social support, and food access. PHA recognizes the opportunity to affect one area that contributes measurably to health equity — access to good food. PHA further defines “good food” as affordable, sustainable, nutritious, high-quality and culturally connected

Food and nutrition security exists when all people, at all times, have physical, social and economic access to food that is safe and consumed in sufficient quantity and quality to meet their dietary needs and food preferences, allowing for a healthy and active life.³ Achieving that goal requires an equity lens. To make a difference, we cannot treat people as the same (equal), but need to treat people equitably, where some may require more or different resources.⁴ Focusing on food equity ensures our approach sees both “overt and subtle injustices at work and rejects biases and stereotypes that blame people for circumstances that are beyond their control.”⁵ Food equity takes into account factors including targeted food marketing, and structural racism that has led to neighborhood segregation, unhealthy built environments, and food and nutrition insecurity. Together, targeted food marketing and structural racism have created environments in which unhealthy foods are the default option where individuals eat, work, and live.⁶ Food equity acknowledges that all efforts won't work in all settings. Closing gaps will require specific strategies as well as interventions that work for the population at large.⁷

PHA operates under the assumption that good food is an important catalyst for good health, and that every family in America should have access to good food — vegetables, beans, fruit and other nutritious foods. Our work helps families gain access to affordable, healthy food. At its core, food equity means that every person in the United States has ready and affordable access to healthy food. This is food equity. While the end goal is for all individuals to choose to consume healthy diets, this is by no means an individual-focused strategy. A wide range of policy, systems and environmental change is needed to achieve this goal.

FOOD AS A DETERMINANT OF HEALTH

Food is both a primary driver of poor health outcomes and an essential tool for preventing, slowing, or, in some cases, reversing the development of obesity and diet-related chronic disease. Heart disease, stroke, and type 2 diabetes are diet-driven. Nutrient dense foods that are high in soluble fiber like fruits, vegetables, and whole grains can lower blood cholesterol levels, blood sugar, and body mass index (BMI).⁸ Foods that are high in salt, sugar, and saturated fat or that are highly processed contribute to obesity, chronic inflammation, high cholesterol, and



³Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion. (March 29, 2022) Social Determinants of Health. Retrieved April 22, 2022 from <https://www.cdc.gov/chronicdisease/programs-impact/sdoh.htm>

⁴Kumanyika S. K. (2019). A Framework for Increasing Equity Impact in Obesity Prevention. American journal of public health, 109(10), 1350–1357. <https://doi.org/10.2105/AJPH.2019.305221>

⁵Kumanyika S. K. (2019). A Framework for Increasing Equity Impact in Obesity Prevention. American journal of public health, 109(10), 1350–1357. <https://doi.org/10.2105/AJPH.2019.305221>

⁶Lichtenstein, A. H., Appel, L. J., Vadiveloo, M., Hu, F. B., Kris-Etherton, P. M., Rebholz, C. M., Sacks, F. M., Thorndike, A. N., Van Horn, L., & Wylie-Rosett, J. (2021). 2021 Dietary Guidance to Improve Cardiovascular Health: A Scientific Statement From the American Heart Association. Circulation, 144(23), e472–e487. <https://doi.org/10.1161/CIR.0000000000001031>

⁷Kumanyika, S. 2017. Getting to Equity in Obesity Prevention: A New Framework. NAM Perspectives. Discussion Paper, National Academy of Medicine, Washington, DC. <https://doi.org/10.31478/201701c>

⁸Dahl, W. J., & Stewart, M. L. (2015). Position of the Academy of Nutrition and Dietetics: Health Implications of Dietary Fiber. Journal of the Academy of Nutrition and Dietetics, 115(11), 1861–1870. <https://doi.org/10.1016/j.jand.2015.09.003>

insulin resistance.^{9,10} Ten foods — eating too much or too little — are at the root of nearly half of U.S. deaths from heart disease, stroke, and type 2 diabetes each year.¹¹

A growing body of research supports the adoption of specific dietary patterns to treat or reverse common chronic diseases, including the Dietary Approaches to Stop Hypertension (DASH) developed by the National Heart, Lung, and Blood Institute and Mediterranean or plant-based diets which can reverse diabetes and significantly decrease heart disease related mortality.¹²

HEALTH CONSEQUENCES OF FOOD AND NUTRITION INSECURITY

The literature has consistently found food insecurity to be negatively associated with health. Adults who are food insecure may be at an increased risk for a variety of negative health outcomes and health disparities.¹³ Higher rates of chronic disease have been found in adults with lower-income and food insecurity who are between the ages of 18 and 65 compared to adults who are food-secure.¹⁴ There is also a strong link between food insecurity and obesity, and it is associated with all ten of the chronic diseases measured by the Centers for Disease Control and Prevention.¹⁵ Food insecurity can also have more immediate ramifications. Food-insecure seniors have limitations in activities of daily living comparable to those of food-secure seniors fourteen years older.¹⁶ Food insecurity has been associated with poor mental health, particularly among females with most research suggesting bidirectional relationships with food insecurity increasing the risk of depressive symptoms or diagnosis, or depression predicting food insecurity.¹⁷

The inverse is also true, a healthy diet is associated with longer life expectancy. Data from 1,548 counties, representing >90% of the population of the United States from 2011 through 2014 found a healthy diet score based on food expenditure was associated with an increase in county-level life expectancy. Decreasing unhealthy food expenditure and promoting healthy food expenditure played an equal role in prolonging longevity for men, whereas increasing healthy food expenditure mattered for women. Increasing expenditure on whole grains, fresh fruit and vegetables, and dairy products, as well as reducing expenditure on sugar-sweetened beverages and processed red meat showed a positive association with increased county-level life expectancy.¹⁸

FOOD SECURITY, NUTRITION SECURITY AND FOOD EQUITY

Food security has long been used as the term to describe “access by all people at all times to enough food for an active, healthy life”¹⁹ with food insecurity defining a “household-level economic and social condition of limited or uncertain access to adequate food.”²⁰ Recently, there has been a shift in focus to nutrition security, which can be defined as “having consistent access, availability, and affordability of foods and beverages that promote well-being and prevent (and if needed, treat) disease particularly among racial/ethnic minority populations, populations living under the Federal poverty line, and rural and remote populations.”²¹ While the definitions of food security and nutrition security may seem similar, there are important distinctions between these two concepts: food security has traditionally emphasized access and availability of sufficient food, and nutrition security

⁹ Poti, J. M., Braga, B., & Qin, B. (2017). Ultra-processed Food Intake and Obesity: What Really Matters for Health-Processing or Nutrient Content?. *Current obesity reports*, 6(4), 420–431. <https://doi.org/10.1007/s13679-017-0285-4>

¹⁰ Feingold, K. R. (2021). The Effect of Diet on Cardiovascular Disease and Lipid and Lipoprotein Levels. In K. R. Feingold (Eds.) et. al., *Endotext*. MDText.com, Inc.

¹¹ Micha, R., Peñalvo, J. L., Cudhea, F., Imamura, F., Rehm, C. D., & Mozaffarian, D. (2017). Association Between Dietary Factors and Mortality From Heart Disease, Stroke, and Type 2 Diabetes in the United States. *JAMA*, 317(9), 912–924. <https://doi.org/10.1001/jama.2017.0947>

¹² Harvard Health Publishing. (2021, March 30). The Right Plant Based Diet for You. <https://www.health.harvard.edu/staying-healthy/the-right-plant-based-diet-for-you>

¹³ US Department of Health and Human Services. (n.d.). Food insecurity. Food Insecurity - Healthy People 2030. Retrieved March 10, 2022, from <https://health.gov/healthypeople/objectives-and-data/social-determinants-health/literature-summaries/food-insecurity/#:~:text=Healthy%20People%202030%20organizes%20the%20social%20determinants%20of,were%20food%20insecure%20at%20some%20time%20during%20>

¹⁴ Seligman, H. K., Laraia, B. A., & Kushel, M. B. (2010). Food insecurity is associated with chronic disease among low-income NHANES participants. *The Journal of nutrition*, 140(2), 304–310. <https://doi.org/10.3945/jn.109.112573>

¹⁵ Food Research & Action Center. (2017, December). Hunger & Health: Impact of Poverty, Food Insecurity, and Poor Nutrition. <https://frac.org/wp-content/uploads/hunger-health-impact-poverty-food-insecurity-health-well-being.pdf?msckid=ded4b3c4c25811eca2775f7491d86bf2>

¹⁶ Gundersen, C., & Ziliak, J. P. (2015). Food Insecurity And Health Outcomes. *Health affairs (Project Hope)*, 34(11), 1830–1839. <https://doi.org/10.1377/hlthaff.2015.0645>

¹⁷ Maynard, M., Andrade, L., Packull-McCormick, S., Perlman, C. M., Leos-Toro, C., & Kirkpatrick, S. I. (2018). Food Insecurity and Mental Health among Females in High-Income Countries. *International journal of environmental research and public health*, 15(7), 1424. <https://doi.org/10.3390/ijerph15071424>

¹⁸ Li, Q. X., Yuan, S., Yu, Z., Larsson, S. C., & He, Q. Q. (2021). Association of food expenditure with life expectancy in the United States, 2001–2014. *Nutrition (Burbank, Los Angeles County, Calif.)*, 91–92, 111310. <https://doi.org/10.1016/j.nut.2021.111310>

¹⁹ Coleman-Jensen, A., Rabbitt, M. P., Gregory, C. A., & Singh, A. (2021, September). Household Food Security in the United States in 2020 (ERR-298). U.S. Department of Agriculture, Economic Research Service.

²⁰ U.S. Department of Agriculture, Economic Research Service. (2021, September 8). Definitions of Food Security. Economic Research Service. Retrieved April 22, 2022, from <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/definitions-of-food-security/#:~:text=Food%20insecurity%20%E2%80%94the%20condition%20assessed%20in%20the%20food,physiological%20condition%20that%20may%20result%20from%20food%20insecurity>

²¹ Mozaffarian, D., Fleischacker, S., & Andrés, J. R. (2021). Prioritizing Nutrition Security in the US. *JAMA*, 325(16), 1605–1606. <https://doi.org/10.1001/jama.2021.1915>

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places importance on access to, and availability of, food that promotes well-being and prevents disease. Most of the published literature to date has focused on food security and food insecurity. We also acknowledge the many developing and critically-important conversations moving towards community ownership of food assets and production, including movements toward food sovereignty, food justice, and restoration of cultural foodways.

As PHA advances our goal to achieve food equity, we will focus on nutrition security. Without nutrition security we cannot achieve food equity and ultimately health equity.

Food and nutrition insecurity are complex issues that are impacted by food access, availability, utilization and stability over time.²² Based on these definitions, over 10% of households, representing more than 38 million Americans, struggled with food insecurity in 2020, a 9 percent increase from 2019.²³ While levels of overall food insecurity have varied, Black and Hispanic people are at much higher risk of food insecurity. An analysis examining trends in food insecurity from 2001 to 2016 found that food insecurity rates for both non-Hispanic Black and Hispanic households were at least twice that of non-Hispanic White households.²⁴ This trend has not improved in 2020, with food insecurity rates triple in Black households and double in Hispanic households, compared to White households.²⁵

CHILDREN ARE AT PARTICULAR RISK

Food insecurity occurs in 21% of families with children and adolescents in the United States.²⁶ Food insecurity is of particular concern for children as it has severe implications on children's health and their future health outcomes.²⁷ Household food insecurity impedes children from reaching their full physical, cognitive, and psychosocial potential. Children with food insecurity demonstrate poorer eating behavior, leading to chronic absenteeism, school failure, and chronic disease.²⁸ Food-insecure children are at least twice as likely to report being in fair or poor health and at least 1.4 times more likely to have asthma, compared to food-secure children.²⁹ A review of 17 studies including children zero to twelve years of age found that transitioning between food security and food insecurity had a significant and lasting effect on academic/cognitive function and behavior.³⁰ In addition, food insecurity and obesity coexist in low-income children and adolescents.^{31,32} In children, household food insecurity is related to significantly worse general health, some acute and chronic health problems, and worse health care access, including foregone care and heightened emergency department use.³³

YOUNG ADULTS

Young adulthood is also an important time when educational and economic transitions may increase the risk for food insecurity and weight gain. Food insecurity affects 9%–14% of young adults aged 24–32 in the U.S.,³⁴ but multiple studies have found higher rates

²² Ashby, S., Kleve, S., McKechnie, R., & Palermo, C. (2016). Measurement of the dimensions of food insecurity in developed countries: A systematic literature review. *Public Health Nutrition*, 19(16), 2887-2896. doi:10.1017/S1368980016001166

²³ Coleman-Jensen, A., Rabbitt, M. P., Gregory, C. A., & Singh, A. (2021, September). Household Food Security in the United States in 2020 (ERR-298). U.S. Department of Agriculture, Economic Research Service.

²⁴ Odoms-Young, A., & Bruce, M. A. (2018). Examining the Impact of Structural Racism on Food Insecurity: Implications for Addressing Racial/Ethnic Disparities. *Family & community health*, 41 Suppl 2 Suppl, Food Insecurity and Obesity(Suppl 2 FOOD INSECURITY AND OBESITY), S3-S6. <https://doi.org/10.1097/FCH.0000000000000183>

²⁵ Coleman-Jensen, A., Rabbitt, M. P., Gregory, C. A., & Singh, A. (2021, September). Household Food Security in the United States in 2020 (ERR-298). U.S. Department of Agriculture, Economic Research Service. <https://www.ers.usda.gov/publications/pub-details/?pubid=102075&msclid=41cb2f4ac25a11ec86b96e8b6ada2f0a>

²⁶ Shankar, P., Chung, R., & Frank, D. A. (2017). Association of Food Insecurity with Children's Behavioral, Emotional, and Academic Outcomes: A Systematic Review. *Journal of developmental and behavioral pediatrics* : JDBP, 38(2), 135-150. <https://doi.org/10.1097/DBP.0000000000000383>

²⁷ Office of Disease Prevention and Health Promotion. (n.d.). Social determinants of health. *Healthy People 2030*. U.S. Department of Health and Human Services. <https://health.gov/healthypeople/objectives-and-data/social-determinants-health>

²⁸ Pai, S., & Bahadur, K. (2020). The Impact of Food Insecurity on Child Health. *Pediatric clinics of North America*, 67(2), 387-396. <https://doi.org/10.1016/j.pcl.2019.12.004>

²⁹ Gundersen, C., & Ziliak, J. P. (2015). Food Insecurity And Health Outcomes. *Health affairs (Project Hope)*, 34(11), 1830-1839. <https://doi.org/10.1377/hlthaff.2015.0645>

³⁰ Gallegos, D., Eivers, A., Sondergeld, P., & Pattinson, C. (2021). Food Insecurity and Child Development: A State-of-the-Art Review. *International journal of environmental research and public health*, 18(17), 8990. <https://doi.org/10.3390/ijerph18178990>

³¹ Tester, J. M., Rosas, L. G., & Leung, C. W. (2020). Food Insecurity and Pediatric Obesity: a Double Whammy in the Era of COVID-19. *Current obesity reports*, 9(4), 442-450. <https://doi.org/10.1007/s13679-020-00413-x>

³² Pourmotabbed, A., Moosavian, S. P., Hadi, A., Mohammadi, H., Dadfarma, A., Rezaei, S., Babaei, A., Moradi, S., & Mirzaei, K. (2020). The Relationship between Food Insecurity and Risk of Overweight or Obesity in under 18 Years Individuals: A Systematic Review and Meta-Analysis. *International journal of preventive medicine*, 11, 158. https://doi.org/10.4103/ijpvm.IJPVM_463_19

³³ Thomas, M., Miller, D. P., & Morrissey, T. W. (2019). Food Insecurity and Child Health. *Pediatrics*, 144(4), e20190397. <https://doi.org/10.1542/peds.2019-0397>

³⁴ Nagata, J. M., Palar, K., Gooding, H. C., Garber, A. K., Whittle, H. J., Bibbins-Domingo, K., & Weiser, S. D. (2019). Food Insecurity Is Associated With Poorer Mental Health and Sleep Outcomes in Young Adults. *The Journal of adolescent health* : official publication of the Society for Adolescent Medicine, 65(6), 805-811. <https://doi.org/10.1016/j.jadohealth.2019.08.010>

(20%–50%) among college students.³⁵ In young adults aged 24–32 years, food insecurity was associated with poorer mental and sleep health.³⁶ Food insecurity was also associated with self-reported poor health, chronic diseases (diabetes, hypertension) and obesity in young adulthood.³⁷ Young adulthood is a period where eating habits are more likely to shift and those shifts can have long-lasting consequences. Weight gain during young adulthood has been shown to increase the risk of chronic disease and mortality, especially for low-income young adults and young adults who are Black or Hispanic.³⁸

DISPARITIES IN FOOD ACCESS

In addition to household food security measures, there have also been efforts to assess food availability in neighborhoods and communities. These efforts focus on food deserts, places where people have limited access to a variety of healthy and affordable food. These areas often feature large proportions of households with low incomes, inadequate access to transportation, and a limited number of food retailers providing fresh produce and healthy groceries for affordable prices.³⁹ While there are some efforts to move away from the term “food deserts,” many low income and low access areas remain in the United States, measured by accessibility to sources of healthy food, distance to a store or by the number of stores in an area and ability to travel to stores including vehicle or public transportation availability.⁴⁰

Nearly 39.5 million people, 12.8% of the U.S. population, were living in low-income and low-access areas, according to the USDA's most recent food access research report in 2017. Within this group, researchers estimated that nineteen million people — or 6.2% of

the nation's total population — had limited access to a supermarket or grocery store.⁴¹ As with food security, food availability also varies by income and race/ethnicity. Regardless of terminology used, under-resourced neighborhoods have less access to healthy foods while often having greater access to food sources that promote unhealthy eating. As neighborhood poverty increases, supermarket availability decreases and convenience stores increase, regardless of race/ethnicity. At equal levels of poverty, predominantly Black census tracts had the fewest supermarkets, predominately White census tracts had the most.⁴² This did not hold true in rural areas, where neither racial composition nor poverty level predicted supermarket availability. In a review of eighteen studies investigating income disparities and exposure to fast-food outlets, fourteen found a relationship between low-income neighborhoods and fast-food outlet density.⁴³ Areas with a high-density of fast-food outlets and outlets selling high-calorie fast food and junk food, relative to healthy food options have been described as “food swamps.” Some studies have suggested that the presence of a food swamp is a stronger predictor of obesity rates than the absence of full-service grocery stores.⁴⁴ Overall neighborhood food environment influences fruit and vegetable intake. Those with a large grocery store in the neighborhood consumed more daily servings of fruits and vegetables, while presence of a convenience store in the neighborhood was associated with fewer daily fruit and vegetable servings.⁴⁵

IMPACT OF COVID-19

COVID-19 has disrupted food access and impacted food insecurity, which is associated with numerous adverse individual and public health outcomes. The

³⁵ Freudenberg, N., Goldrick-Rab, S., & Poppendieck, J. (2019). College Students and SNAP: The New Face of Food Insecurity in the United States. *American journal of public health*, 109(12), 1652–1658. <https://doi.org/10.2105/AJPH.2019.305332>

³⁶ Nagata, J. M., Palar, K., Gooding, H. C., Garber, A. K., Whittle, H. J., Bibbins-Domingo, K., & Weiser, S. D. (2019). Food Insecurity Is Associated With Poorer Mental Health and Sleep Outcomes in Young Adults. *The Journal of adolescent health : official publication of the Society for Adolescent Medicine*, 65(6), 805–811. <https://doi.org/10.1016/j.jadohealth.2019.08.010>

³⁷ Nagata, J. M., Palar, K., Gooding, H. C., Garber, A. K., Bibbins-Domingo, K., & Weiser, S. D. (2019). Food Insecurity and Chronic Disease in U.S. Young Adults: Findings from the National Longitudinal Study of Adolescent to Adult Health. *Journal of general internal medicine*, 34(12), 2756–2762. <https://doi.org/10.1007/s11606-019-05317-8>

³⁸ Dietz W. H. (2017). Obesity and Excessive Weight Gain in Young Adults: New Targets for Prevention. *JAMA*, 318(3), 241–242. <https://doi.org/10.1001/jama.2017.6119>

³⁹ Dutko, P., ver Ploeg, M., & Farrigan, T. (2021, August). Characteristics and Influential Factors of Food Deserts (ERR-140). U.S. Department of Agriculture, Economic Research Service.

⁴⁰ U.S. Department of Agriculture, Economic Research Service. (2022, March 14). Food Access Research Atlas. Economic Research Service. Retrieved April 22, 2022, from <https://www.ers.usda.gov/data-products/food-access-research-atlas/>

⁴¹ Rhone, A., ver Ploeg, M., Dicken, C., Williams, R., & Breneman, V. (2017, January). Low-Income and Low-Supermarket-Access Census Tracts, 2010–2015 (EIB-165). U.S. Department of Agriculture, Economic Research Service.

⁴² Bower, K. M., Thorpe, R. J., Jr, Rohde, C., & Gaskin, D. J. (2014). The intersection of neighborhood racial segregation, poverty, and urbanicity and its impact on food store availability in the United States. *Preventive medicine*, 58, 33–39. <https://doi.org/10.1016/j.ypmed.2013.10.010>

⁴³ Hilmers, A., Hilmers, D. C., & Dave, J. (2012). Neighborhood disparities in access to healthy foods and their effects on environmental justice. *American journal of public health*, 102(9), 1644–1654. <https://doi.org/10.2105/AJPH.2012.300865>

⁴⁴ Cooksey-Stowers, K., Schwartz, M. B., & Brownell, K. D. (2017). Food Swamps Predict Obesity Rates Better Than Food Deserts in the United States. *International journal of environmental research and public health*, 14(11), 1366. <https://doi.org/10.3390/ijerph14111366>

⁴⁵ Zenk, S. N., Lachance, L. L., Schulz, A. J., Mentz, G., Kannan, S., & Ridella, W. (2009). Neighborhood retail food environment and fruit and vegetable intake in a multiethnic urban population. *American journal of health promotion : AJHP*, 23(4), 255–264. <https://doi.org/10.4278/ajhp.071204127>

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COVID-19 pandemic magnified existing disparities and disproportionately affected low-income, food-insecure households that already struggled to meet basic needs.⁴⁶ Families were hit particularly hard, with the percent of families reporting very low food security increasing by 20% from before to during COVID-19.⁴⁷

COMPONENTS OF FOOD EQUITY

Access is critical to both food equity and health equity. When people cannot get vegetables, beans, fruits and other nutritious foods, they most often fall back on fast food and other nutrient poor ultra-processed foods often high in refined grains and added sugars. PHA's role is to increase access to vegetables, beans, fruits and other healthy options. We do this both in the general marketplace — particularly in under-resourced communities — and throughout the charitable food system. Our focus on under-resourced communities is central to achieving food equity, both in where we work and the engagement of community members in the process. "Healthy options" refers in this context to various approaches that can improve access to options for healthy eating and physical activity in under-resourced communities.⁴⁸

PHA has identified three pillars necessary to support food equity:

1. **A healthy food supply, in both public and private sectors, and through the charitable system.** The U.S. food supply comes from both private and public sectors and is reinforced by the community-based charitable sector. It is critical that each sector features more vegetables, beans, fruits and other nutritious foods. Federal nutrition programs are the first line of defense in supporting nutrition insecure households, but these benefits are often not sufficient to meet all of the food needs of people living in food insecure households. The charitable food system — a network of food banks, food pantries, and meal programs — is the next line of defense as it distributes billions of pounds of food annually.⁴⁹ While government and

charitable sectors are critical to addressing food security, they are inadequate. The private sector must be responsive to people in under-resourced communities, and to make high quality, culturally relevant, good food available.

Addressing food deserts and limited food access is not as simple as building more supermarkets. Over the past decade, federal and local governments and nonprofit organizations have spent hundreds of millions of dollars encouraging supermarkets to open in food deserts. These efforts have had mixed results and take into account only the supply side of the equation. PHA sees opportunity to work with entrepreneurs and new, community-based models to help connect demand and supply. We also see a chance to help build demand for supply. In lower-income and nutrition insecure households, that demand may be suppressed by competing priorities for limited resources. Strategies addressing both consumer demand, purchasing power, and the availability of high quality, healthy food are necessary to achieve food equity.

2. **Access to affordable, good food in all communities. Vegetables, beans, fruits and other nutritious food must reach all communities.** Limited access to healthy, affordable, culturally connected food and an overabundance of cheap, highly processed food influences consumption patterns, particularly among people with lower incomes. For individuals living in low food access areas, vehicle access is often an important determinant of diet quality.⁵⁰ In addition, definitions of food access and food availability imply that the food



⁴⁶ Wolfson, J. A., & Leung, C. W. (2020). Food Insecurity and COVID-19: Disparities in Early Effects for U.S. Adults. *Nutrients*, 12(6), 1648. <https://doi.org/10.3390/nu12061648>

⁴⁷ Adams, E. L., Caccavale, L. J., Smith, D., & Bean, M. K. (2020). Food Insecurity, the Home Food Environment, and Parent Feeding Practices in the Era of COVID-19. *Obesity* (Silver Spring, Md.), 28(11), 2056–2063. <https://doi.org/10.1002/oby.22996>

⁴⁸ Kumanyika S. K. (2019). A Framework for Increasing Equity Impact in Obesity Prevention. *American journal of public health*, 109(10), 1350–1357. <https://doi.org/10.2105/AJPH.2019.305221>

⁴⁹ Schwartz M, Levi R, Lott M, Arm K, Seligman H. (2020, March) Healthy Eating Research Nutrition Guidelines for the Charitable Food System. Healthy Eating Research. <http://healthyeatingresearch.org>

available is of a quality and culture that is desired by people living in the community. However, cultural food preferences have received limited attention in research on the neighborhood food environment.

Food insecure households may lack the means to afford healthier convenience items, such as spices, meal kits and/or community supported agriculture options. While U.S. households in the lower income quartile spend less on food, it is a higher percentage of their income (27 percent) than those with higher incomes who spend 7 percent of income on food.⁵¹ For example, in 2015, the states with the highest percentage of low-income, low food access census tracts were found in the South.⁵² This limited purchasing power inhibits access to healthy convenience options even when they are available in the community.

3. **Awareness, knowledge and skills that empower people everywhere to select good foods and to quickly prepare them at home.** A lack of cooking skills, limited knowledge about food preparation, and limited time are significant barriers to the production of home cooked meals in the United States.⁵³ In a survey of more than 1,000 Americans, 28% said they do not know how to cook.⁵⁴ Many people have lost connection with cooking methods associated with traditional foodways. Additionally, there is widespread consumer confusion when it comes to determining what is and isn't healthy, particularly among packaged

food and beverage products. A recent survey showed participants six varieties of cereal bars and asked them to identify which was the healthiest choice.⁵⁵ Just 9% of respondents correctly identified the healthiest choice. Limited access to foods may impact feeding behaviors, with parents from food insecure households reporting more pressuring feeding behaviors.⁵⁶ Differences were observed during early infancy, where feeding practices differed among caregivers by household food security status.⁵⁷

Food access issues also often focus specifically on the foods but not on the seasonings or preparations that would make those foods acceptable. Use of seasonings have been shown to increase selection of vegetables, particularly in people who did not often consume vegetables.⁵⁸ Nutrition education focusing on spices and herbs improved attitudes toward eating vegetables, whole grains, lean protein, and low-fat dairy.⁵⁹ This is applicable to both home preparation and national nutrition programs. The addition of spices and herbs to vegetables in the National School Lunch Program is associated with small increases in vegetable intake at an urban, economically under-resourced, predominantly African American high school.⁶⁰ In addition herbs, spices and overall quality have a direct impact on consumer demand.

Confidence in the ability to prepare a healthy meal is positively associated with healthfulness of the meal.⁶¹ A systematic review found that culinary interventions

⁵⁰ Ver Ploeg, M., Breneman, V., Farrigan, T., Hamrick, K., Hopkins, D., Kaufman, P., Lin, B. H., Nord, M., Smith, T., Williams, R., Kinnison, K., Olander, C., Singh, A., Uckermanty, E., Krantz-Kent, R., Polen, C., McGowan, H., & Kim, S. (2009). Access to Affordable and Nutritious Food: Measuring and Understanding Food Deserts and Their Consequences – Report to Congress. Washington, DC: U.S. Department of Agriculture, Economic Research Service.

⁵¹ U.S. Department of Agriculture, Economic Research Service. (2022b, March 22). Food Prices and Spending. Economic Research Service. Retrieved April 22, 2022, from <https://www.ers.usda.gov/data-products/ag-and-food-statistics-charting-the-essentials/food-prices-and-spending/>

⁵² Rhone, A., Ploeg, M., Williams, R., & Breneman, V. (2019, May). Understanding Low-Income and Low-Access Census Tracts Across the Nation: Subnational and Subpopulation Estimates of Access to Healthy Food (EIB-209). Economic Research Service.

⁵³ Soliah, L. A. L., Walter, J. M., & Jones, S. A. (2012). Benefits and barriers to healthful eating: what are the consequences of decreased food preparation ability?. American Journal of Lifestyle Medicine, 6(2), 152-158.

⁵⁴ Health & Nutrition Letter. (2019, September 17). 28% of Americans Cant Cook. Tufts University. Retrieved April 22, 2022, from <https://www.nutritionletter.tufts.edu/general-nutrition/28-of-americans-cant-cook/>

⁵⁵ Danley, S. (2022, March 15). Study finds widespread consumer confusion about healthy food labels. Bake. Retrieved April 22, 2022, from <https://www.bakemag.com/articles/15847-study-finds-widespread-consumer-confusion-about-healthy-food-labels>

⁵⁶ Orr, C. J., Ravanbakht, S., Flower, K. B., Yin, H. S., Rothman, R. L., Sanders, L. M., Delamater, A., & Perrin, E. M. (2020). Associations Between Food Insecurity and Parental Feeding Behaviors of Toddlers. Academic pediatrics, 20(8), 1163–1169. <https://doi.org/10.1016/j.acap.2020.05.020>.

⁵⁷ Orr, C. J., Ben-Davies, M., Ravanbakht, S. N., Yin, H. S., Sanders, L. M., Rothman, R. L., Delamater, A. M., Wood, C. T., & Perrin, E. M. (2019). Parental Feeding Beliefs and Practices and Household Food Insecurity in Infancy. Academic pediatrics, 19(1), 80–89. <https://doi.org/10.1016/j.acap.2018.09.007>.

⁵⁸ Manero, J., Phillips, C., Ellison, B., Lee, S. Y., Nickols-Richardson, S. M., & Chapman-Novakofski, K. M. (2017). Influence of seasoning on vegetable selection, liking and intent to purchase. Appetite, 116, 239–245. <https://doi.org/10.1016/j.appet.2017.04.035>.

⁵⁹ D'Adamo, C. R., McArdle, P. F., Balick, L., Peisach, E., Ferguson, T., Diehl, A., Bustad, K., Bowden, B., Pierce, B. A., & Berman, B. M. (2016). Spice MyPlate: Nutrition Education Focusing Upon Spices and Herbs Improved Diet Quality and Attitudes Among Urban High School Students. American journal of health promotion : AJHP, 30(5), 346–356. <https://doi.org/10.1177/0890117116646333>.

⁶⁰ D'Adamo, C. R., Parker, E. A., McArdle, P. F., Trilling, A., Bowden, B., Bahr-Robertson, M. K., Keller, K. L., & Berman, B. M. (2021). The addition of spices and herbs to vegetables in the National School Lunch Program increased vegetable intake at an urban, economically-underserved, and predominantly African-American high school. Food quality and preference, 88, 104076. <https://doi.org/10.1016/j.foodqual.2020.104076>.

⁶¹ Beshara, M., Hutchinson, A., & Wilson, C. (2010). Preparing meals under time stress. The experience of working mothers. Appetite, 55(3), 695–700. <https://doi.org/10.1016/j.appet.2010.10.003>

were associated with improved attitudes, self-efficacy and a healthier dietary intake in adults and children.⁶²

Only after these pillars are erect and stable, will we have a strong foundation for food equity – allowing all people to choose and consume health-building vegetables, beans, fruits and other nutritious food.

MEASUREMENT OF FOOD EQUITY

National⁶³ and international⁶⁴ nutrition guidelines recommend a balanced diet containing a variety of foods including vegetables, fruits, beans, whole grains, protein foods, dairy, and fortified non-dairy alternatives. PHA has committed to providing 50 million servings of vegetables, beans and fruits to food insecure families and be directly responsible for mapping 1,000 new and existing good food access points by 2025, as part of our work to meaningfully shift the food supply available in under resourced communities and improve food equity across the country. Vegetables, beans, and fruits are major contributors of important under-consumed nutrients, may reduce the risk of many chronic diseases, and are an indicator of a healthy overall diet.⁶⁵ However, very few Americans consume recommended amounts of vegetables, beans, and fruits. Additionally, access to high quality vegetables and fruits is limited in certain communities and intake is lowest among people with

lower-incomes.⁶⁶ As such, we are using “servings of vegetables, beans, and fruits” as a metric for assessing both food access and consumption. Good food access points are locations that offer a variety of high-quality vegetables and fruits consistently, either for free through charity or in retail at a price that meets a community's ability to pay. PHA's Good Food Access Map, which will launch in late 2022, will show the availability of good food in under-resourced communities and serve as a call to action to community-based organizations to catalyze greater availability.

LOOKING AHEAD

COVID-19 has shown that food and its connection to health has never been more critical. Improving the food supply and enabling a healthy food culture is the least costly and most sustainable solution for addressing the obesity and chronic disease epidemic and inequities facing America today. Even modest changes in diet quality could result in significant improvements in health and increased savings. By one estimate, the present value of the extended longevity from increasing daily consumption of fruits and vegetables by one additional portion (½ cup per day) is \$2.7 trillion.⁶⁷

Food equity — where every person, in every zip code in the United States has ready and affordable access to healthy, sustainable, nutritious, high-quality and culturally connected food — would allow for good food and the benefits of a healthy diet to be available and accessible to all.

⁶² Hasan, B., Thompson, W. G., Almasri, J., Wang, Z., Lakis, S., Prokop, L. J., Hensrud, D. D., Frie, K. S., Wirtz, M. J., Murad, A. L., Ewoldt, J. S., & Murad, M. H. (2019). The effect of culinary interventions (cooking classes) on dietary intake and behavioral change: a systematic review and evidence map. BMC nutrition, 5, 29. <https://doi.org/10.1186/s40795-019-0293-8>.

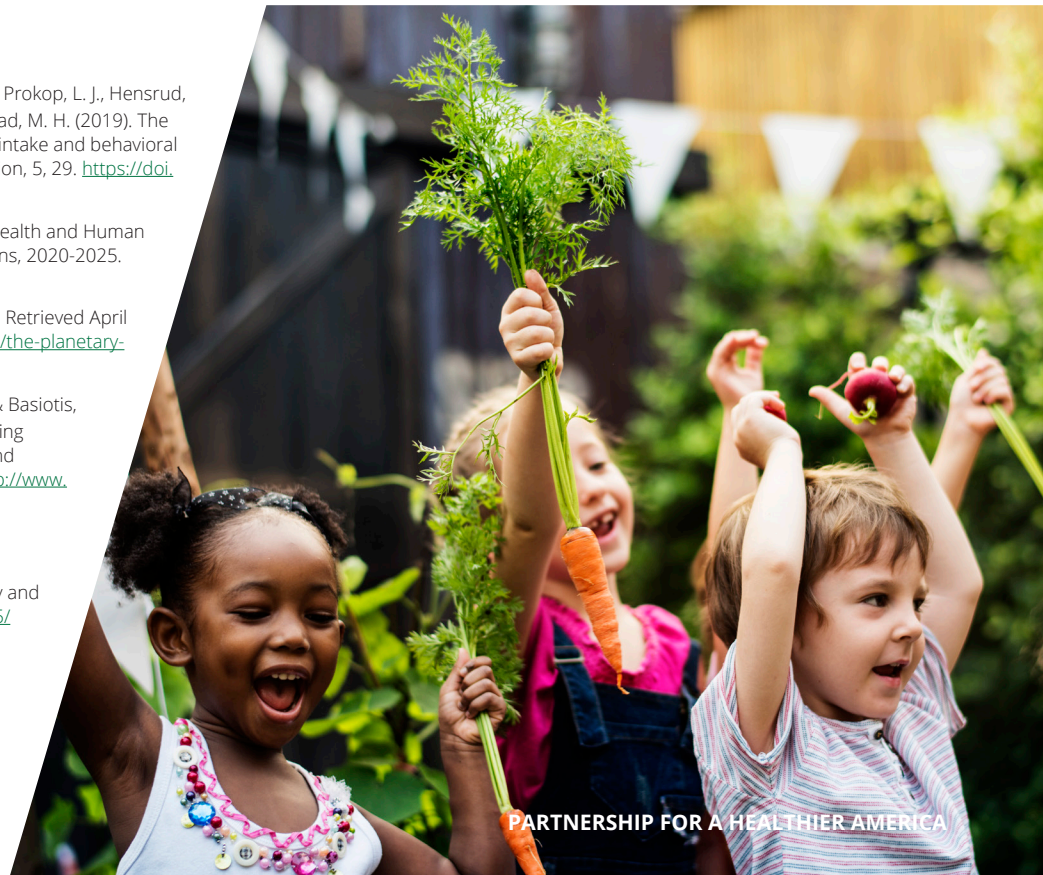
⁶³ U.S. Department of Agriculture and U.S. Department of Health and Human Services. (2020, December). Dietary Guidelines for Americans, 2020-2025. 9th Edition. Available at [DietaryGuidelines.gov](https://www.dietaryguidelines.gov).

⁶⁴ EAT-Lancet Commission. (n.d.). The Planetary Health Diet. Retrieved April 22, 2022, from <https://eatforum.org/eat-lancet-commission/the-planetary-health-diet-and-you/>

⁶⁵ Guenther, P.M., Reedy, J., Krebs-Smith, S.M., Reeve, B.B., & Basiotis, P.P. (2007). Development and Evaluation of the Healthy Eating Index-2005: Technical Report. Center for Nutrition Policy and Promotion, U.S. Department of Agriculture. Available at <http://www.cnpp.usda.gov/HealthyEatingIndex.htm>

⁶⁶ Lee, S. H., Moore, L. V., Park, S., Harris, D. M., & Blanck, H. M. (2022). Adults Meeting Fruit and Vegetable Intake Recommendations - United States, 2019. MMWR. Morbidity and mortality weekly report, 71(1), 1–9. <https://doi.org/10.15585/mmwr.mm7101a1>

⁶⁷ O'Hara, J. K. (2013, August). The \$11 Trillion Reward. Union of Concerned Scientists. <https://www.ucsusa.org/resources/11-trillion-dollar-reward>.





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